# What Pain Specialists Need to Know About Posttraumatic Stress Disorder in Operation Iraqi Freedom and Operation Enduring Freedom Returnees

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**ABSTRACT. Objective:** To provide a screening and early intervention model for pain specialists working with Operation Iraqi Freedom/Operation Enduring Freedom returnees presenting with early symptoms of posttraumatic stress disorder [PTSD].

**Findings:** Why should pain specialists learn about PTSD in Operation Iraqi Freedom/Operation Enduring Freedom returnees? As the war continues, American service members face frequent physical threats, which pose strong potential for injuries that result in various forms of chronic pain. Exposure to war-related stressors, combined with chronic pain, may increase the likelihood of PTSD. Upon returning to the United States, service members may not seek psychiatric help due to stigmatization. As such, they are more likely to present in pain clinics to address their physical injuries and pain, as there tends to be less stigma involved in doing so. Posttraumatic stress disorder may hamper therapeutic gains in pain patients.

**Conclusions:** As first-line providers, it is important to be cognizant of psychological symptoms, particularly symptoms of PTSD. Use of the proposed screening and early intervention model in pain clinic settings may decrease chronic pain and help prevent chronic PTSD in America's service members. 

**KEYWORDS.** Chronic pain, posttraumatic stress disorder, pain clinics, early intervention, Operation Iraqi Freedom, Operation Enduring Freedom

## *INTRODUCTION*

Yet another attack, possibly related to a suicide bombing, hit American soldiers eating lunch in a mess tent in Mosul, Iraq on December 21, 2004. The results involved 22 more American soldiers being killed, as well as four United States civilians (1). The Department of

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Defense reports that, as of April 13, 2005, there have been 1,721 American service members killed in Operation Iraqi Freedom [OIF] and Operation Enduring Freedom [OEF], and 12,106 American service members have been wounded in OIF/OEF (2).

American service members returning from OIF/OEF report very high levels of combat exposure. Hoge et al. reported that more than 90 percent described being shot at, and a high percentage reported handling dead bodies, knowing someone who was injured or killed, or killing an enemy combatant (3). They stated, "Close calls, such as having been saved from being wounded by wearing body armor, were not infrequent" (3). A United States military surgeon, Atul Gawande, wrote about the unique struggles and challenges faced with the OIF/OEF. He stated, "The war has gone on far longer than planned, the volume of wounded service members has increased, and the nature of the injuries has changed" (4).

Indeed, in OIF/OEF, protective gear such as flack jackets help protect service members from getting fatal internal injuries; however, service members are more likely to sustain severe peripheral wounds, which may lead to amputation, such as lower limb below-the-knee amputations (5). Additionally, physicians are treating frequent blast injuries from suicide bombings and land mine explosions. Many service members acquire severe injuries such as penetrating or blunt-force traumatic injuries, severe burn injuries, and shrapnel wounds caused by nails, bolts, dirt, clothing, and enemy bones (4). Such severe blast injuries result in what is being termed by military trauma surgeons as "mangled limbs," consisting of severe and sometimes fatal soft-tissue, bone, or vascular injuries. Due to the severity of injuries seen by military physicians in the war, service members are also having high rates of pulmonary embolisms and deep venous thromboses. Additionally, there is also a very high incidence of service members becoming blind (4,5). The gamut of war-related injuries is astounding. Many of the service members who were medically released from the war zone have been sent to Walter Reed Army Medical Center in Washington, DC. Gawande described his experiences from one day at Walter Reed,

> There was one gun shot wound, one anti-tank-mine injury, one grenade injury, three rocket-propelled-grenade injuries, four mortar injuries, eight improvised explosive device injuries, and seven patients with no cause of noted injury. The least seriously wounded of these patients was a 19-year-old who had sustained soft-tissue injuries to the face and neck from a mine . . . partial hand amputation; a hip disarticulation on the right; through-knee amputation on the left; open pelvic debridement; a left nephrectomy and colostomy; an axillary artery and vein reconstruction; a splenectomy, with repair of a degloving scalp laceration and through-and-through tongue laceration. None of the soldiers were more than 25 years of age. (4)

Many injured returnees display a range of acute stress reactions in the initial weeks after a traumatic event. In one early study of soldiers and marines returning from OIF/OEF, between 15.6 and 17.1 percent met screening criteria for major depression, generalized anxiety, or PTSD (3). Service members with high combat exposure are four times more likely to develop PTSD than those with low combat exposure (6). In fact, there is a linear relationship between the prevalence of PTSD and the number of firefights in which soldiers engaged (3). Estimates additionally suggest that there is a two-fold to three-fold increase in risk for developing PTSD in male and female soldiers who were wounded or injured while in the military (6). Not surprisingly, wounded soldiers are at greater risk for developing PTSD than those who are not wounded (7). Clearly, the experience of being in a war zone, coupled by the experience of being wounded and dealing with chronic pain, leave emotional wounds and scars that will not fade over time on their own.

Unfortunately, many OIF/OEF service members fear reporting the negative psychological sequelae while in the military or following their reassimilation into the mainstream. Most service members are reluctant to acknowledge emotional distress and fear having a psychiatric diagnosis in their records while in the military (8). Returnees who screen positive for mental health problems also say that they do not attend

mental health services because of perceived public scrutiny or risk of deleterious effects on their military career (3). Due to numerous obstacles, including stigma, most returnees will not seek mental health services. It is likely, however, that most returnees will seek help and treatment in pain clinic settings. Intervention for war trauma symptoms is very important at this early stage.

Individuals who show frequent symptoms of acute stress disorder in the month following trauma are particularly at risk for chronic PTSD (9). Those who do not recover from PTSD within three months are also more at risk for developing chronic PTSD (10). In fact, about eight percent of men and 20 percent of women exposed to trauma will develop PTSD, with approximately 30 percent developing chronic PTSD (11). Effective interventions are available that can be implemented at an early stage (12-14). Thus, screenings for PTSD are necessary to identify those at risk for PTSD and who would benefit from intervention.

## *WHY SHOULD PAIN SPECIALISTS LEARN ABOUT POSTTRAUMATIC STRESS DISORDER?*

Since many of the service members returning from the war have been wounded, it is likely they will suffer from various forms of chronic pain, including, but not limited to, soft tissue injuries and musculoskeletal pain, neuropathic pain, pain related to severe burn injuries and/or grafts, pain due to imbedded shrapnel or metal/bone fragments, pain related to amputation and/or phantom limb, pain secondary to surgeries, pain related to compression fractures or injuries from falls, jumps, or other types of impact. While there are numerous definitions for "chronic pain," we are defining chronic pain according to the International Association for the Study of Pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (15). For the purposes of this article, we will address the ramifications and treatment of chronic pain, which can include any of the types of chronic pain mentioned, as well as any which we may not have mentioned here. Returning service members are more likely to present in pain clinics to address their physical injuries and pain, as there tends to be less stigma involved in doing so as compared to seeking psychiatric help. However, PTSD may hamper therapeutic gains in pain patients. This is one key reason why pain specialists should know about PTSD.

## *PAIN PATIENTS HAVE AN INCREASED RISK OF POSTTRAUMATIC STRESS DISORDER*

Although data is not available for OIF/OEF returnees at this time, studies with other populations show that there is an increased prevalence of PTSD in patients with chronic pain. Individuals who are physically injured also tend to have higher rates of PTSD than those without injuries. It has been shown that between 10 and 50 percent of civilian patients with chronic pain conditions also meet criteria for PTSD (16). Veterans with chronic physical disabilities resulting from war-zone injuries have higher rates of PTSD than their non-disabled counterparts (6). Thus, returnees with such disabilities related to their injuries may be suffering from acute stress, which puts them at greater risk for developing chronic PTSD. As first-line providers, pain specialists need to be cognizant of psychological symptoms, particularly symptoms of PTSD, in an effort to decrease the likelihood of returnees developing a chronic symptom picture. If early trauma-related symptoms are not assessed in pain clinics, these symptoms may be left untreated.

## *PAIN AND POSTTRAUMATIC STRESS DISORDER TEND TO MAINTAIN ONE ANOTHER*

Research has further indicated significant overlap between chronic pain and PTSD symptom presentations, in terms of hypervigilance, attentional bias for condition-specific stimuli, increased startle response, and the ability to modulate symptoms (17). It has been suggested that PTSD and chronic pain mutually maintain one another, and that both conditions contribute to exacerbations of symptoms in the other (18). As an example, patients with chronic pain

tend to avoid activities that they fear will physically re-injure them or result in greater disability. However, as a result, many individuals with chronic pain become physically deactivated or disabled (19). Similarly, in patients with PTSD, there is an avoidance of triggering stimuli, which ultimately results in the maintenance of re-experiencing and arousal symptoms and greater functional disability (20). It has also been shown that persistent severe pain, disfigurement due to scars, burns, or amputation, and physical impairment serve as constant reminders of the trauma[s], thereby triggering intrusive thoughts and symptoms of PTSD (21). Given this information, it is imperative that patients evidencing symptoms of both of these conditions are treated holistically, with treatments focusing on alleviation of *both* the physical and the emotional pain.

## *HEALING STARTS INSIDE-OUT*

Holistic and integrated treatments for patients with chronic pain and PTSD involve focusing upon the unique experiences of individuals' physical, psychological/emotional, and spiritual selves. Studies of patients with varying conditions, such as cancer, heart disease, chronic illness, pain, insomnia, preparation for invasive procedures, arthritis, and anxiety disorders have consistently supported the importance of treating the whole person (22,23). To fully help individuals heal from the aftereffects of trauma and to better manage their pain, it is important that we, as clinicians, help our patients become more aware and mindful of their thought processes, as well as how they are emotionally affected by and react to things going on in their external environment (24). Thus, working with patients to increase awareness of internal and external cues that trigger pain or trauma symptoms can help them to engage in more positive coping.

## *INTEGRATING POSTTRAUMATIC STRESS DISORDER SERVICES IN PAIN CLINIC SETTINGS*

In the treatment model we outline here, drawn from the Primary Mental Health Care Model (25), mental health care is integrated with medical services within the pain team. The physical and mental health needs of patients are addressed in a single setting by a multidisciplinary team of providers. We suggest a hierarchical approach for intervention with those who evidence PTSD symptoms (26). Returning service members would likely benefit from being given the option of having such services provided by either a military or a civilian pain clinic setting when appropriate. By choosing their own pain clinic settings, returnees may experience less fear about stigmatization. This will ultimately serve to empower returnees and assist in their overall treatment outcomes.

Pain specialists using this approach provide first-line interventions to all individuals who screen positive for a disorder. The advantage of using this approach is that it saves time and money. Intervening with these patients early will help minimize their PTSD and chronic pain symptoms. If interventions at this level are *not* utilized, then patients are more likely to develop maladaptive coping behaviors that can interfere with treatment. For example, patients often will turn to alcohol to help them deal with insomnia, hypervigilance, and unwanted memories. If these types of behaviors continue, these patients are more likely to use alcohol to not only deal with their PTSD symptoms, but to try to ameliorate their pain as well. Over time, the true underlying cause of their problem is less likely to be identified.

First-line interventions range from low intensity to higher intensity and include: screening assessment, psycho-education, basic cognitive-behavioral interventions, and follow-up/monitoring. For the portion of individuals who do *not* respond to first-line interventions, referrals for advanced, higher-intensity treatments should be made. For the purposes of this paper, we will describe first-line treatments, which can easily be implemented in pain clinic settings.

## *POSTTRAUMATIC STRESS DISORDER SCREENING*

To ensure holistic care, we recommend that a PTSD screening scale be administered to all pain patients. Clinicians or support staff can

easily administer and score a brief scale during the intake process. We recommend using validated self-administered checklists to ensure systematic and standardized assessment. One such measure is the PTSD Primary Care Screen (27), which consists of four questions that have been shown to selectively screen for PTSD symptoms [Appendix A]. Patients who score positively on this scale by endorsing two or more items on this scale should be assessed in greater detail to rule out PTSD. Similarly, those patients who obtain positive scores [endorsement of two or more items] should be referred for a more thorough assessment for PTSD. Such patients may also be provided with some brief psychoeducation about PTSD and be provided with other first-line interventions.

## *PSYCHOEDUCATION*

After clinicians identify those patients who require first-line interventions in the pain center, they should consider providing psychoeducation to patients about their conditions. Psychoeducation refers to educational interventions that have a psychotherapeutic impact. Psychoeducation is a fundamental intervention for mental health disorders and is a time-effective and cost-effective component of PTSD treatment. Within the pain clinic, clinicians can provide brief educational interventions to help patients understand the symptoms that they are experiencing. For example, clinicians can explain to patients how PTSD symptoms come about, practical ways to cope with the symptoms, and the process of recovery. The depth of these interventions would depend upon the needs of the provider and patient. Accordingly, psychoeducation may be very brief [e.g., short conversation followed by distributing written materials] or more lengthy.

## *THERAPEUTIC DIALOGUE*

Psychoeducation most often takes place in the form of a dialogue, but in large clinic settings, can also take place in a classroom. Written materials are important accompaniments to the oral intervention. One reason for this is that both seeing and hearing information allows for greater retention of the material. Another reason is that the patient can share the information with significant others in his or her life. We strongly encourage having as much of an open dialogue and collaborative relationship between the providers and patients (28). As patients with chronic pain and PTSD feel very vulnerable and powerless, it is crucial that providers explain procedures and treatments in plain language that is understandable and appropriate to the patient's education and literacy level. By having an ongoing discussion with patients and providing them with the various options for treatment, this will help patients feel more autonomous and empowered in the treatment process. As a result, patients will feel more comfortable collaborating with providers, and having this kind of rapport can facilitate patients making greater therapeutic gains.

## *FAMILY THERAPY*

Family members are also an important target of patient education interventions. Similar to treating individuals with chronic pain, significant others play an important role in supporting the patient in coping with symptoms of PTSD. In patients with chronic pain and PTSD, family members and significant others play a role in either increasing symptoms [e.g., through secondary gain] or decreasing symptoms [e.g., through healthy interactions and appropriate roles]. With psychoeducation, family members can provide the patient with a greater capacity of resources to help cope with their problems.

## *BASIC COGNITIVE-BEHAVIORAL INTERVENTIONS*

Cognitive-behavioral therapy [CBT] is another intervention for PTSD. With appropriate training, professionals as well as paraprofessionals can conduct this intervention within the clinic setting. Cognitive-behavioral therapy includes a variety of techniques, in addition to psychoeducation, such as exploration of beliefs, problem-solving, and positive coping strategies. Patients often have a number of beliefs that sabotage their recovery and increase pain symptoms. By using CBT techniques, the

provider can systematically explore these thoughts and attitudes with the patient and uncover faulty beliefs that may undermine their treatment.

### *PROBLEM SOLVING AND GOAL SETTING*

Some patients cannot see possible options to problems and become overwhelmed. Providers can assist patients who are feeling this way by utilizing systematized techniques designed to help patients come to a decision on some matter that may be causing difficulties for them. Similarly, we have found that a large number of patients do not engage in activities on their own time that would help decrease their stress, pain, and trauma-related symptoms. Rather, many pain patients spend their time engaging in behaviors that only worsen their problems [e.g., sedentary activities].

### *RELAXATION THERAPIES*

We recommend that pain specialists provide their patients with positive coping strategies, which consist of activities that increase patients' abilities to manage their symptoms and improve their daily functioning. For instance, clinicians may recommend activities such as physical exercise, social interactions, and recreational activities. As hyperarousal is shown to be one of the primary symptoms in both PTSD and chronic pain (29,30), use of relaxation therapy is a particularly important coping strategy for managing both of these conditions. Clinicians should provide training in relaxation methods, such as diaphragmatic breathing, progressive muscle relaxation, and autogenics. Many of these positive coping strategies serve a dual purpose for patients, given that they have been shown to help patients with chronic pain and can also help individuals cope with symptoms of PTSD.

### *REGULAR FOLLOW-UP AND MONITORING*

Pain specialists should include follow-up and monitoring of PTSD as a regular part of treatment (31). Again, monitoring may take the form of a brief screen that can be administered by clinicians or support staff. Alternatively, a case manager may choose to follow up with patients on a regular basis. We suggest that providers use a brief pen-and-paper PTSD symptom assessment on a quarterly basis, to monitor improvement or other changes in progress. Providers or support staff can plot assessment scores over time to monitor patients' symptoms, which will help inform treatment. The Veterans Affairs Guidelines for primary care settings (31) recommend that the PTSD Checklist (32) be considered as a measure used to monitor PTSD symptoms on a regular basis.

### *ADVANCED POSTTRAUMATIC STRESS DISORDER TREATMENTS*

When patients' PTSD symptoms do not abate over time, more intensive interventions are called for. A mental health staff member with advanced training in trauma can provide these treatments within the pain clinic setting. If no mental health provider with such advanced training is available, pain clinicians should refer the patient out of the clinic to a mental health trauma specialist. A referral to a mental health professional is also recommended if a patient's symptoms are severe or unstable, such as if the client is actively suicidal, psychotic, or abusing substances (31).

There are a number of advanced, brief, and empirically-supported PTSD interventions that can be conducted in pain clinics. A number of CBT interventions have been developed in manualized form. Some of these interventions have been used to successfully treat motor vehicle and other accident victims (12), while others have been used to treat survivors of rape (13,14). Randomly-controlled clinical trials have shown that these interventions are effective at decreasing rates of PTSD following treatment and years later (12-14). Numerous studies have also shown that CBT generally decreases pain, improves functioning, and decreases physical and psychosocial disability among patients with chronic pain (33-36).

## IDENTIFYING ROOT BELIEFS ABOUT PAIN

Advanced CBTs guide clients to identify distressing beliefs and to generate alternative beliefs. For example, it is common for many patients with chronic pain or PTSD to think to themselves, "My life can't get any worse . . . I can't handle this . . . I don't have it in me anymore." Thus, in this example, the patient is buying into the beliefs that things are catastrophic, they don't have the inner resources to contain their pain or to cope well enough on their own, and that they are feeling helpless. Of course, when patients' thoughts become their beliefs, they will begin to behave accordingly. And, in time, as both the beliefs and behavior become more engrained and habitual for the patient, he/she will be more resistant to other possibilities of how to view his/her experience. Clinicians doing CBT with patients who say these things to themselves would help break these statements down and help clarify what kind of faulty thinking is occurring. When clinicians work with patients on modifying their thoughts and perceptions, this can facilitate healing at a deeper level for them, which can ultimately reduce symptoms and improve functioning.

## EXPOSURE THERAPY

Another advanced PTSD treatment that can be performed by a mental health clinician with specialized trauma training is exposure therapy. Exposure therapies are often included in these protocols, which involve having patients recall the trauma in detail, usually during repeated sessions. Most exposure therapies also include processing the patient's distressing beliefs related to the trauma, thus countering the resultant symptoms of guilt and anger. Exposure therapy should only be done by mental health professionals who are trained in performing this technique. One other form of CBT, known as Stress Inoculation Therapy, is an effective adjunctive treatment for PTSD. Stress Inoculation Therapy gives the client a sense of mastery by teaching a consecutive series of coping skills that counter PTSD symptoms.

## CONCLUSIONS

Clearly, the occurrence of physical problems in OIF/OEF war returnees is substantial. Many returnees sustain head trauma, severe peripheral wounds, and other injuries that often result in chronic pain and physical disabilities. The likelihood for long-term mental health difficulties is also significant, particularly if initial post-trauma symptoms are left untreated. Posttraumatic stress and other mental health disorders pose considerable burdens on the individual that likely hamper treatment for chronic pain conditions. Untreated, PTSD is related to chronic physical and mental health problems. For these reasons, integration of returnees' medical care with mental health care is essential. Further, we strongly recommend that pain specialists integrate assessment and treatment to manage our war veterans' chronic physical pain condition[s], as well as PTSD symptoms or conditions.

Only when both the chronic pain and PTSD are addressed and treated can returnees experience fuller healing. While it may sound simplistic, to treat one area and ignore the other will only serve to maintain patients' distress and prolong their suffering. Our returnees deserve the most comprehensive and holistic treatment, as early as possible, to prevent more serious chronic problems, as well as to enhance both their physical and emotional functioning as reintegrated members of our society.

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## APPENDIX A

### Primary Care PTSD Screen

In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, *in the past month*, you*

**1. Have had nightmares about it or thought about it when you did not want to**

YES NO

**2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it**

YES NO

**3. Were constantly on guard, watchful, or easily startled**

YES NO

**4. Felt numb or detached from others, activities, or your surroundings**

YES NO